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October 26, 1993

92-257
RM-7784

William F. Caton
Acting Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: ProNet Inc.
PP No. 23

Dear Mr. Caton:

On July 30, 1991, ProNet Inc. ("ProNet") filed the above-referenced Request for Grant of Pioneer's Preference ("Request"). This Request accompanied a Petition for Rule Making ("Petition"), wherein ProNet sought amendment of the Commission's Rules to establish its Electronic Tracking Service ("ETS") in the 218-219 MHz band.

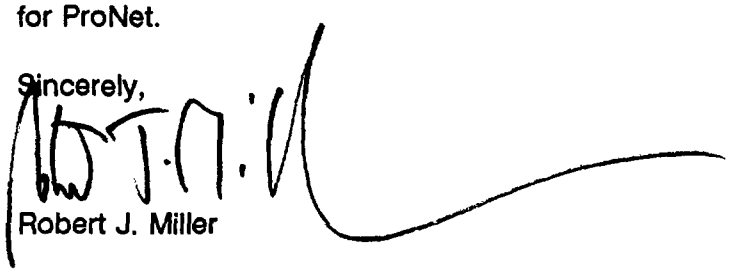
The Request was based upon the innovative nature of ETS and the fact that it maximizes the capabilities and possibilities of radio tracking technology for protection of public safety and private property. As detailed therein, ETS is a unique application of low power radiolocation technology, which adds functionality to and provides different uses for the radio spectrum. Its low ERP maximizes spectrum use and facilitates spectrum sharing.

ProNet herein requests leave to supplement its Request with the attached Request to Modify Petition for Rule Making ("Request to Modify"), which is being filed contemporaneously herewith. The Request to Modify is necessitated by recent reallocations of the 216-220 MHz band. In the Request to Modify, ProNet seeks allocation of spectrum in the 216-217 MHz band for ETS and amendment of the Commission's Rules to authorize ETS permanently under Part 90.

The bases for grant of the Request have not changed. Accordingly, ProNet herein requests that the Request to Modify be incorporated by reference into its Request for Grant of Pioneer's Preference.

Should there be any questions concerning this matter, kindly contact the undersigned counsel for ProNet.

Sincerely,



Robert J. Miller

RJM/dwt
Attachment

cc: See Certificate of Service for attached pleading

159582/gw03

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of

Petition of

PRONET INC.

For Amendment of the Commission's Rules to Allocate Spectrum for Permanent Provision of Electronic Tracking Services (ETS®) and to Amend the Commission's Rules to Authorize ETS Permanently Under Part 90

RM No. 7764

To: The Commission

REQUEST TO MODIFY PETITION FOR RULE MAKING

PRONET INC.

Robert J. Miller
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Its Attorney

Date: October 26, 1993

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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Petition of	)	
	)	
PRONET INC.	)	
	)	
For Amendment of the Commission's Rules to Allocate Spectrum for Permanent Provision of Electronic Tracking Services ("ETS") and to Amend the Commission's Rules to Authorize ETS Permanently Under Part 90	)	RM No. 7784

To: The Commission

REQUEST TO MODIFY
PETITION FOR RULE MAKING

Pursuant to Section 1.401 of the Commission's Rules,[1] ProNet Inc. ("ProNet"), by its attorney, hereby petitions the Commission to modify the above-referenced Petition for Rule Making ("Petition") and promptly to institute a formal rule making proceeding for the establishment of an Electronic Tracking Service ("ETS"). This proceeding would amend the Commission's Rules to allocate spectrum permanently in the 216-217 MHz band for provision of ETS on a nationwide basis under Part 90.

I. SUMMARY

ProNet's ETS is an essential crime-fighting tool. Under experimental authorization, ProNet provides ETS on the 219.960 MHz band. It is a well-engineered, low-power tracking service used

[1] 47 C.F.R. Section 1.401 (1992).

by law enforcement agencies, including the FBI, and metropolitan police departments, to fight crime with unprecedented success.

Provision of ETS service involves secretly attaching a mini-"tag" low-power transmitter (i.e., the "TracPac") to bundles of currency, jewelry or other valuables. There are over 27,000 such tags in operation nationwide. Customers include financial institutions (e.g., banks) and merchants (e.g., jewelers and retailers). When a "tagged" valuable is stolen, the transmitter is activated and a silent signal is broadcast. Law enforcement authorities are equipped with a distributed monitoring network, which enables them to track the criminal's location promptly and precisely.

During the past year, approximately $1.5 million was recovered from robberies involving a TracPac. The incidence of bank robberies drops significantly after ETS installation, as evidenced in the following cities: Dallas (64% decrease); Portland (64% decrease); Sacramento (48% decrease); and San Francisco (44% decrease).

In its Petition, ProNet proposes reallocation of the 218-219 MHz band for ETS. However, this frequency band will not work for ETS because of the recent reallocation of the 218-219 MHz band for the Interactive Video Data Services ("IVDS"),[2] the reallocation of the 220-222 MHz band for narrowband operations,[3] and the anticipated reallocation of the 219-220 MHz band for amateur services.[4]

ProNet faces the inescapable prospect that these IVDS, 220-222 MHz and amateur operations would cause harmful interference to ETS, causing discontinuance of existing service

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[2]Interactive Video Data Services, 7 FCC Rcd 1630 (1992).

[3]Amendment of Part 90 of the Commission's Rules to Provide for the Use of the 220-222 MHz Band by the Private Land Mobile Radio Services, 6 FCC Rcd 2356 (1991) ("220 MHz Order").

[4]Allocation of the 219-220 MHz Band for Use by the Amateur Radio Service, Notice of Proposed Rule Making, 8 FCC Rcd 2352 (1993) ("Amateur NPRM").

at 219.960 MHz and foreclosing any possibility of implementing and operating the service in the 218-219 MHz band proposed in the Petition. Such uncertainty clearly retards the ability of ProNet to continue expanding its life-saving, crime-fighting ETS.

The changes in allocations for the 216-220 MHz band and improvements in ETS technology necessitate the modifications proposed herein. Specifically, ProNet proposes:

- Reallocation of the 216-217 MHz band to provide six (6) channels (i.e., 216.70, 216.75, 216.80, 216.85, 216.90 and 216.95 MHz) for ETS.
- Minimal changes in technical specifications to ensure optimal low-power operation.
- Designation of ETS as a primary service.
- Establishing ETS as a separate low power radio service under Part 90 and not as part of the Business Radio Service ("BRS").
- Stricter ETS licensee eligibility to protect operations on the 216-217 MHz band and adjacent bands, including revisions to the proposed definition for ETS.
- Retaining the proposals made in the Petition for one (1) ETS licensee per market; selection of ETS licensees by lottery (or by auction, if the Commission so requires); granting a blanket license for all ETS mobile transmitter "tags;" permitting system testing; and grandfathering ETS licensees.

As demonstrated below, ProNet's request to modify the Petition is in the public interest. Moreover, these proposed changes are consistent with other pending Commission proceedings involving the 216-217 MHz band:

- Phonic Ear, Inc. ("Phonic Ear") has filed a Petition for Rule Making to reallocate the 216-217 MHz band for a low power auditory assistance radio service.[5] Phonic Ear and ProNet have agreed that they can share the 216-217 MHz band, with six (6) channels allocated for ETS interleaved between channels to be allocated for Phonic Ear's proposed service. ProNet supports prompt adoption of Phonic Ear's proposal because it

[5]Petition for Rule Making, filed June 2, 1993, by Phonic Ear, Inc. (RM _____) ("Phonic Ear Petition").

clearly would serve the public interest by providing much needed services to the hearing-impaired.

- The Commission adopted a Notice of Proposed Rule Making and Notice of Inquiry in 1992 to conduct an omnibus review of permanent and future needs for the maritime services.[6] This proceeding includes an examination of the 216-217 MHz band.[7] In the Maritime NPRM/NOI, the Commission considers permitting additional high power maritime operations in this band.[8] As Phonic Ear correctly demonstrates in its petition, with respect to the 216-217 MHz band, the "Commission can best meet its public interest objectives . . . by limiting its use to low power operations" because "it has no domestic high-power incumbents who would have to be relocated."[9] ProNet's ETS also is a low power service, and thus it fully supports Phonic Ear's request. Restricting the 216-217 MHz band as a safe harbor for low power operations would enable the publicly beneficial services proposed by Phonic Ear and ProNet to operate, would protect adjacent TV and other licensees, and would not hamper Automated Maritime Telecommunications System ("AMTS") operation and expansion.

Operation in the 216-217 MHz band also could affect TV channel 13 broadcasts. Adoption of ProNet's proposal to operate ETS on the 216-217 MHz band would not adversely affect such broadcast operations. ProNet and the Association for Maximum Service Television, Inc. ("MSTV") have had preliminary discussions on this issue. However, MSTV will not comment on ProNet's proposal until it completes its engineering evaluation.

The public needs ETS. It also needs the auditory assistance and related services proposed by Phonic Ear. Thus, ProNet requests that the Commission promptly issue a Notice of Proposed Rule Making proposing reallocation of the 216-217 MHz band, as described herein, for ETS and for the low power auditory assistance radio service proposed in the Phonic Ear

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[6] Amendment of the Commission's Rules Concerning Maritime Communications, Notice of Proposed Rule Making and Notice of Inquiry, 7 FCC Rcd 7863 (1992) ("Maritime NPRM/NOI").

[7] Id. at 7868.

[8] Id. at 7871.

[9] Phonic Ear Petition at 15.

Petition. Furthermore, to protect these low power operations, ProNet requests that the Commission prohibit use of the 216-217 MHz band by high power services (i.e., in excess of 100 milliwatts effective radiated power-or ERP).

II. PRONET'S ETS SERVES THE PUBLIC INTEREST

A. ETS Successfully Combats Crime.

ProNet's wholly-owned subsidiary, Electronic Tracking Systems, Inc., under experimental license, provides ETS service in 23 metropolitan areas, including Los Angeles, San Francisco, and Dallas, as well as in smaller areas, such as Fresno and Austin.[10] ETS assists local, state and federal law enforcement agencies with criminal tracking operations.[11]

During its 21 years of operation, ProNet's ETS has been an unqualified success. Perpetrators are quickly apprehended and stolen goods are quickly recovered. Capture and corresponding conviction rates in markets where ETS is deployed have increased and incidence of robbery has decreased significantly.[12]

Over 27,000 ProNet tags currently are in use.[13] Several recent incidents, where bundles of currency containing ProNet's mini-tag transmitter (TracPac) were stolen, highlight ETS' value:

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[10]See Attachment A for a complete list of service areas and law enforcement agencies using ETS. Over 260 financial institutions and over 70 merchants nationwide use ETS. ProNet has been operating its ETS pursuant to Experimental Licenses at 219.960 MHz. ProNet is obligated to seek permanent spectrum allocation for ETS, as these licenses expressly are conditioned on the licensee "mak[ing] all efforts to change appropriate FCC Rules to allow for this operation on an operational basis." See note 19 and Section III, A, infra, for a description of ProNet's efforts to comply with this license requirement.

[11]ProNet, as the licensee, is responsible directly for the proper installation, training, operation, and maintenance for each ETS transmitter and for all associated equipment.

[12]See Petition at Exhibit 2.

[13]The number of tags is increasing at the rate of 7,000 annually. There is a waiting list of law enforcement agencies, including police departments in Miami, Ft. Lauderdale, San Diego, Atlanta, Seattle, Ft. Worth, and Baltimore, which want ETS installed in their area. See Attachment A.

- On September 17, 1993, two suspects jumped the counter in a "takeover style" robbery in San Francisco. Within nine minutes of the offense, the two suspects were tracked and apprehended. Later, the suspects confessed to robbing multiple banks prior to taking a TracPac.

- In the twelve months ending September 1993, the four Texas ETS systems (Dallas, Houston, Austin, and San Antonio) were responsible for the apprehension of suspects involved in the heist of 16 different banks, resulting in the recovery of more than $250,000.

- On August 30, 1993, a lone robber with a handgun forced two tellers into the bank's back room where he left a package on the counter. Upon leaving the bank, the robber stated he had left a bomb. Fortunately, he had two TracPacs in his possession, which led police to him after only 45 minutes. He was arrested and in excess of $10,000 was returned to the bank. The tellers were unharmed.

- Six robbers and over $239,000 were rounded up by the Puerto Rican police after a robbery on July 29, 1993. These robbers were particularly violent and sported automatic weapons when they entered the bank. All customers and employees were demanded to hit the floor. One thief instructed the manager to open the vault and empty it. Unknowingly to the robbers, their loot contained four TracPacs. Due to the presence of the TracPacs, the largest bank heist in the history of Puerto Rico ended with all suspects in custody and all monies recovered.

- Another violent robbery in Sacramento, which occurred in July 1993, began with four members of a local gang entering a TracPac-equipped bank. Three of the suspects jumped the counter. One of the gang members struck a teller. All the suspects were carrying semi-automatic weapons. After leaving the bank with over $12,000, the robbers changed vehicles and drove to an apartment complex. The police and sheriff's department officers tracked to the complex in less than an hour and had the suspects in custody a short time later.

- A lone robber jumped the counter of a Phoenix bank in July 1993, and helped himself to over $90,000 from the vault. The vault door was left open by bank personnel. Luckily, the robber also helped himself to a TracPac deployed in the vault and he was tracked to his home in less than 30 minutes. All monies were recovered.

- Responding to the ETS transmitter, Houston Police, in July 1993, surrounded a hotel minutes after $75,000 was taken from a local bank. Two suspects inside then panicked and tried to escape through the back parking lot. They were spotted by the police and arrested. The money was returned to the bank.

- No police officers were hurt when a gun battle ensued after a Portland bank was robbed in June 1993. The suspects were tracked to a local hotel, where they dove out their window and began shooting at the police. Only one of the suspects was wounded, but both were taken into custody. Over $15,000 was recovered and returned to the bank.

- In cooperation with the Oakland Police Department, ProNet deployed over 100 temporary ETS tags aimed at capturing a particularly deadly gang member. On May 3, 1993, the gang member and an accomplice hit a local bank, which had been protected by the devices. The gang member and an accomplice were arrested in less than 15 minutes, achieving the desired results of the stake-out effort.

- On May 7, 1993, four very violent members of a Los Angeles gang rented a van and drove to Las Vegas. The gang members commandeered a local bank in a takeover style robbery. The suspects, carrying automatic weapons, robbed the bank of over $50,000 and subsequently drove to another rental car, where they changed clothes and moved the loot. The loot contained a TracPac and the robbers were apprehended on the Las Vegas Strip in a tense showdown with the Las Vegas Metropolitan Police.

Testimonials for ETS from law enforcement agencies are numerous:

- The supervisor of the FBI Violent Crimes, Major Offenders Squad (Atlanta, Georgia), states that "it is obvious that [ETS] is instrumental in a vast increase of apprehension and conviction rates for those individuals engaged in bank robbery activities." Similar support is expressed by FBI offices in Portland and Las Vegas.

- The Chief of Police for Huntington Beach, California, states that its increase in bank robbery "arrests would have been impossible without a system such as ETS because of incomplete descriptions of vehicles and suspects as well as a specific direction of travel. The ETS system allows police officers to capture a signal and track it to a point of arrest. Because suspects are captured shortly after the crime is committed and with the stolen property in their possession, subsequent prosecution is enhanced and almost a certainty."

- The Chief of Police for Bellingham, Washington, declares that ETS "has provided law enforcement with the opportunity to take a precise, accurate and immediate response to those situations where ETS is applied. It allows responding personnel to offer themselves time to prepare mentally and physically for the imminent confrontation with an armed subject. In addition, the responding personnel are capable of recovering specific items of evidence such as property and/or cash monies."

- The Captain of the General Investigations Bureau for the City of Phoenix Police Department declares that ETS "has proven to be a beneficial, if not

critical, law enforcement tool in our community. Bank robbery suspects that have previously been successful in evading detection are now susceptible to apprehension much sooner and with less hazard to citizens and law enforcement officers than ever before."

- The Sheriff for Las Vegas characterizes ProNet's ETS as "the most productive security system available to the banking industry. Each year our apprehension rate approaches or exceeds the 90% mark and this is due largely to the ProNet system. Additionally, with these apprehensions, monetary recovery is in the tens of thousands of dollars. [ETS] is the only technology ever to have this much impact on the capture of robbery suspects. This is the major reason our apprehension rate is the or among the highest in the nation. The results of not having [ETS] in this area, to say the least, would be detrimental to the efforts of Law Enforcement and this community."

- The Acting Bureau Commander, Crimes Against Persons Bureau, City of Dallas Police Department, describes ProNet's ETS as a "vital law enforcement monitoring and tracking service" which "enables us to promote safety of life and property through the expanded use of radio communications for crime control and prevention."

- The Houston Police Department supports ETS because its system "provides the City of Houston with a 'high-tech' crime fighting aid, at minimal cost, that the city might not otherwise be able to obtain on its own. If ProNet is not granted [permanent spectrum] it could have a negative impact on this department's ability to combat our ever increasing incidence of violent crime.

- The City and County of San Francisco describes ETS as "a critical law enforcement tool that works 24 hours a day, providing a service to the public, enabling the Police Department to make arrest away from the bank or business, less endangering the public as well." Losing ETS "would be putting us back to the dark ages, if PRONET was unable to provide us with the tools that they now provide."[14]

Such testimonials are not surprising. Compelling anecdotal evidence of ETS' social value is abundant. For example:

- According to the FBI, most bank robbers are successful 7 - 10 times before being caught. In areas equipped with ETS, this success rate falls to 1 - 2 robberies before apprehension. Since most bank robbers are serial criminals, this success in preventing an average 6 - 8 robberies is significant.

[14] See Attachment B for these and other testimonials from law enforcement agencies, financial institutions and merchants.

- Law enforcement agencies, on the average, capture less than 10% of all bank robbers on the day of the robbery. In areas with ETS, there is a five times greater chance that the robber will be apprehended on the same day (typically in less than 30 minutes), with a 100% conviction rate. Thus, ETS is having a positive impact on reducing crime nationwide.

- ETS is a major crime deterrent. For example, in Portland, Oregon, there was a 64% reduction in the number of bank robberies after ETS installation. Similarly, there was a 39% decrease in Orange County, California, bank robberies after ETS installation. Following ETS installation, several other cities also experienced a significant drop in bank robberies: Dallas had a 64% decrease; Austin had a 57% decrease; Anchorage had a 56% decrease; Sacramento had a 48% decrease; San Francisco had a 44% decrease; and Las Vegas had a 25% decrease.[15]

- The ETS in San Juan, Puerto Rico, is particularly noteworthy. For the first time, the FBI has installed and operated tracking units in its own vehicles. The FBI formed a joint task force with the local Puerto Rican police to combat a severe bank robbery problem. Unless the bank robbery problem in Puerto Rico was curtailed, they were on a record setting pace of having over $3 million stolen in 1992. Instead, recent statistics show a 36% reduction in bank robberies for Puerto Rico.

In the past year (October 1992 - September 1993), there have been 369 incidents in financial institutions using ETS, totalling approximately $2.2 million in stolen money. Of these robberies, there were 171 apprehensions and recovery of almost $1.5 million. The average track time per apprehension was only 21 minutes. Without the ETS tags, the number of robberies, based upon nationwide data, would have been approximately 400% higher.[16]

This reduction in crime results in a much lower risk to human safety. Allocation of spectrum to ensure such crime reduction is mandated by the Communications Act of 1934, as amended (the "Act"). Under Section 151 of the Act, the Commission must make available, to the public, technologies that promote "safety of life and property..."[17] Furthermore, Section

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[15]See Attachment B.

[16]See Attachment B.

[17]47 U.S.C. Section 151 (1993).

157(a) of the Act requires the Commission "to encourage the provision of new technologies and services to the public."[18] ProNet's ETS is a technology proven to reduce crime and to increase conviction rates and recovery of stolen property significantly. Such crime-fighting effectiveness results in dramatic improvement to public safety. Thus, these statutory provisions require grant of the Petition, as modified herein.

B. Grant of the Petition, as Modified, Would Ensure Ongoing Provision of ETS.

Unfortunately, continued development and expanded implementation of this clearly beneficial service are threatened. No permanent spectrum has been allocated for ETS.[19] To remedy this situation, on July 30, 1991, ProNet filed the Petition, proposing amendment of Part 90 of the Commission's Rules to establish ETS as a permanent service under the BRS.[20] In this

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[18]47 U.S.C. Section 157(a) (1993).

[19]This lack of permanent spectrum for ETS is not due to any lack of effort by ProNet. In the proceeding to reallocate the 220-222 MHz band, ProNet supported the Commission's proposal to create 200 5 KHz channels for utilization by narrowband technologies. However, the Commission's proposed service rules failed to accommodate vital law enforcement monitoring and tracking needs at the local, state and federal levels. To meet these critical public safety and national security requirements, ProNet requested that the Commission specifically designate spectrum in the 220-222 MHz band for law enforcement tracking operations allowing authorities to combat and reduce violent crime. Despite overwhelming public support from law enforcement agencies and merchants, the Commission adopted a public safety set-aside of ten channels, but it limited eligibles for this set-aside to entities currently authorized in the Part 90 Public Safety Radio Services, which includes police authorities but not private entities, such as ProNet. See 220 MHz Order at 2360. It is impractical to operate ETS under licenses granted to law enforcement agencies because there are numerous such local, state and federal agencies serving each area. Moreover, ProNet has made extensive efforts to obtain reallocation of other government and non-government spectrum. See Section III.A, infra.

[20]Concurrent with filing of its Petition, ProNet filed a Request for Grant of Pioneer's Preference (PP No. 23) ("Request"). This Request was based upon the innovative nature of ETS and the fact that it maximizes the capability and possibilities of radio tracking technology for protection of public safety and private property. ETS is a unique application of low power radio location technology which adds functionality to and provides different uses for the radio spectrum. Its low ERP maximizes spectrum use and facilitates spectrum sharing. In addition to modifying the Petition, in a concurrent filing, ProNet also seeks to supplement the Request accordingly. The Commission has adopted a Notice of Proposed Rule Making, ET Docket No. 93-266 (FCC 93-477, released Oct. 21, 1993) ("Pioneer's Preference NPRM"), wherein it initiates a review of the

Petition, ProNet proposes allocation of three (3) channels in the 216-220 MHz band for ETS (i.e., 218.0, 218.5 and 219.0 MHz).

Substantial support for grant of ProNet's Petition exists. In the record of the Petition, numerous national and local law enforcement agencies, including the FBI, financial institutions, and merchants, declared how valuable ETS is as a crime-fighting tool and how imperative it is that ProNet's ETS service be allocated permanent spectrum and be authorized on a permanent basis.[2]

Notwithstanding the clear public interest benefits from adopting the Petition and the clear public support for its adoption, certain Commission actions have necessitated changes to ProNet's proposal. Inauguration of IVDS and 220-222 MHz services, and reallocation of the 219-220 MHz band for amateur services, would cause unacceptable interference to ETS operating either on the proposed 218.0, 218.5 and 219.0 MHz channels or on the existing 219.960 MHz experimental channel.

- IVDS -- implementation of IVDS on the 218-219 MHz band would destroy ETS on the 219.960 band and would prevent ETS operation on the 218-219 MHz band. As authorized by the Commission, IVDS likely will evolve into a ubiquitous, cellular-like network in each service area, providing ongoing video and data transmissions. In this configuration, with its high ERP of 20 watts on towers of up to 200 feet, IVDS would overwhelm ETS operations.

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pioneer's preference rules to assess the effect of its authority to assign licenses by competitive bidding, which recently was enacted by Congress. In paragraph 20 of the Pioneer's Preference NPRM, the Commission tentatively proposes "that any repeal or amendment of [its pioneer's preference] rules apply" to requests, filed by ProNet and other parties, that still are pending. Given the clear innovative nature of ETS, ProNet, while recognizing the need to review the impact of competitive bidding, requests that resolution of this Pioneer's Preference NPRM not delay action on its Request (see Pioneer's Preference NPRM, accompanying Statement of Commissioner Barrett).

[2]These parties include the FBI, law enforcement agencies for San Francisco, Las Vegas, Sacramento, Dallas, Houston, Portland and Reno; approximately 20 law enforcement agencies for Los Angeles and Orange Counties; Wells Fargo Bank; Bank of America; Sunbelt Savings; First Interstate Bank; and BEST Products.

- 220-222 MHz -- Narrowband operations in this band could operate at up to 100 watts ERP. This high power level would impair ETS operations totally at the current 219.960 MHz band. Moreover, due to the IVDS allocation, ProNet could not relocate to the 218-219 MHz band for protection from 220-222 MHz operations.

- Amateur services -- Reallocation of the 219-220 MHz band, as proposed in the Amateur NPRM, also prompted ProNet to seek permanent spectrum elsewhere. Operations by the amateurs at a high power level of up to 50 watts PEP and anticipated frequent intercity point-to-point transmissions would foreclose ETS operation on the 219.960 MHz band and on the 218-219 MHz band.

This uncertainty is hampering acceptance and development of ETS severely. Expansion of the ETS technology, into domestic and international markets, is being stifled. It is impractical for equipment manufacturers to invest in producing the necessary radio equipment until spectrum is allocated and ETS is established as a service on a permanent basis. Notwithstanding the remarkable success of ETS, potential customers and law enforcement agencies are reluctant to invest their time and resources in a service that is not permanent.

Nevertheless, ProNet continues to make improvements in its ETS technology:

- It is incorporating digital signal processor technology to minimize susceptibility to interference and to improve receiver selectivity.

- It has developed and implemented a thinner, more environmentally safe battery using lithium polymer instead of mercury oxide. With this reduction in size, the tag now can be sandwiched between two single currency bills. This allows the tag to be folded and handled much easier and eliminates the need to install the miniature transmitter in a cutout section of a bundle of currency. More importantly, the smaller size reduces the possibility of detection.[36]

- It expects, by the third quarter of 1994, to introduce new receiver technology that will improve receiver sensitivity from -134 dBm to -160 dBm.

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[36]This new technology has enabled ProNet to improve ETS for jewelry store "smash and grab" robberies because the smaller size facilitates attachment to such valuables and decreases the likelihood of detection by robbers. These types of robberies are particularly violent and usually involve gangs. It also has enabled ProNet to introduce a tag especially for ATM use.

Accordingly, as detailed herein, ProNet proposes modifying its Petition seeking permanent allocation of six (6) channels in the 216-217 MHz band on a primary basis for ETS.[23] Operation of ETS on these new channels would not be affected adversely by adjacent operation, including IVDS, amateur and 220-222 MHz services. Nor would ETS adversely affect these or any other services, most notably broadcast operations on Channel 13.

C. The Modifications Proposed Are Compatible With Phonic Ear's Petition.

ProNet's proposal is fully consistent with the proposed reallocation of the 216-217 MHz band in the Phonic Ear Petition. Phonic Ear proposes reallocating twenty (20) 50 KHz channels (from 216.025 MHz to 216.975 MHz), on a primary basis, to operate a low power auditory assistance radio service for disability services and for education and health care.

To optimize availability of the already-scarce spectrum for two (2) publicly beneficial services, Phonic Ear's auditory assistance and ProNet's ETS, the parties have agreed that both proposals are compatible on the 216-217 MHz band. Specifically, given the high sensitivity and low power of ProNet's receivers, the six (6) channels proposed for reallocation to ETS could be "interleaved" between Phonic Ear's channels without causing harmful interference to its operations. For proper system operation, Phonic Ear requires a minimum of 50 KHz adjacent channel separation and ETS requires a minimum of 30 KHz adjacent channel separation between center frequencies. The 50 KHz channelization scheme Phonic Ear proposes easily accommodates the ETS requirements without being adversely affected. By having the ETS center frequencies fall in between Phonic Ear's primary channels, maximum integration is achieved.[24] Consequently, ProNet fully supports adoption of the Phonic Ear Petition.[25]

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[23]These six (6) channels are 216.70, 216.75, 216.80, 216.85, 216.90 and 216.95 MHz.

[24]Phonic Ear requires a ± 10 KHz bandwidth for its center frequency to protect the auditory quality of its signal. Phonic Ear Petition at 19. ProNet's ETS requires a ± 4 KHz bandwidth for its channels. This required bandwidth is different than the 50 KHz adjacent channel separation

III. THE SPECIFIC MODIFICATIONS PROPOSED HEREIN ARE IN THE PUBLIC INTEREST

A. ProNet Has Engaged In Substantial Efforts to Identify an Appropriate Band for Reallocation.

To insure that its proposed reallocation for ETS could operate without receiving harmful interference from or causing it to adjacent licensees, ProNet has devoted considerable financial and technical resources to identifying appropriate spectrum. These efforts have encompassed both spectrum allocated for government and for non-government use.

ProNet extensively evaluated the merits of seeking a federal government spectrum reallocation. Towards this end, it had numerous meetings with NTIA, the FBI, and other government representatives. However, even though the FBI benefits from and is highly supportive of ETS, given the uncertainties associated with government spectrum reallocation and the need for a near-term resolution to avoid the loss of existing service due to the emergence of IVDS, 220 MHz and amateur services, ProNet decided to forego this approach.[28]

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required by Phonic Ear and the 30 KHz adjacent channel separation required for ETS. Thus, based upon these requirements, the ETS channels can be interleaved between the Phonic Ear channels.

[27]In its Petition, Phonic Ear proposes that the Commission authorize FM transmission in the 216-217 MHz band. Phonic Ear Petition at 20. ProNet's ETS would operate using AM transmission. See Attachment C. However, the Phonic Ear FM transmission and the ETS AM transmission standards would be compatible and would not cause interference to each other. Phonic Ear also recommends that users of its proposed service have the flexibility to split its 50 KHz channels into narrower bandwidths without further Commission action. Phonic Ear Petition at 18-19. In general, ProNet does not oppose such flexibility. However, channel splitting from 216.70 - 216.95 MHz likely would cause harmful interference to ETS operations. Thus, ProNet and Phonic Ear agree that such splitting should not be permitted on these channels.

[28]Recently, 200 MHz of government spectrum was reallocated for non-governmental use. Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, Section 6001, 107 Stat. 379, enacted August 10, 1993 ("OBRA"). The specific uses for this 200 MHz of spectrum are unclear at this time and likely will not be finalized for several years. In addition, due to this reallocation, NTIA is quite reluctant to consider surrendering other government spectrum at this time.

Instead, ProNet has continued to focus on the 216-220 MHz band. Spectrum propagation of frequencies near the 220 MHz band is excellent for land mobile-type operations. The quality of land mobile use in this band is enhanced by low noise, absence of skip, minimal foliage absorption and ease of effective antenna construction.[27]

In particular, ProNet followed the suggestion of an AMTS licensee, Waterway Communications System, Inc. ("Watercom"), and has explored the viability of the vacant 216-217 MHz band. Studies were made and testing was conducted to verify that ETS could be provided on this band consistent with Commission requirements and with adjacent licensee needs. Improvements in ETS equipment technology, described above (Section II.B), were made to permit interference-free operation in the 216-217 MHz band.

More importantly, ProNet and Phonic Ear have worked together to determine whether they could share the 216-217 MHz band. Based upon their mutual review of technical proposals, an arrangement between ProNet and Phonic Ear for such sharing has been reached. Implementation of this arrangement necessitates making the following modifications to the Petition:

- Reallocation of the 216-217 MHz band for ETS instead of the 218-219 MHz band.
- Reallocation of six (6) instead of three (3) channels for ETS.
- Minor technical changes.
- Reallocation of ETS on a primary, instead of on a secondary basis.
- Establishment of ETS as a separate service under Part 90 and not as part of the BRS.

[27] Petition at 28. By contrast, ETS is not effective at frequencies below 200 MHz because operations are too noisy, power levels are too high, and adequate antenna efficiency is unavailable.

- Specific eligibility requirements to become an ETS licensee, including revisions to the definition for ETS.

B. Specific Modifications

1. Selection of 216-217 MHz band

In its Petition, ProNet proposes reallocating the 218-219 MHz band for ETS. However, as a result of reallocating spectrum for IVDS (218-219 MHz) and 220 MHz services, and the likely reallocation of spectrum for amateur services (219-220 MHz band), the 218-219 MHz band no longer is viable for ETS.[28]

The reallocation of spectrum for IVDS made the 216-217 MHz band available.[29] The technical characteristics of the 216-217 MHz band are consistent with ProNet's needs. Moreover, as Watercom itself acknowledges, this band is especially appropriate for ProNet's proposed ETS.

Several factors contribute to ProNet's selection of the 216-217 MHz band:

- ETS cannot operate effectively below 200 MHz or above 400 MHz.[30]
- The exclusive government spectrum from 225-399.9 MHz is unavailable.[31]

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[28]Section II.B, supra.

[29]The 216-217 MHz band is allocated for coast-to-ship AMTS use, but it has long been vacant. When the Commission reallocated the ship-to-coast AMTS frequencies in the 218-219 MHz band for IVDS, it left the 216-217 MHz band in limbo. Ostensibly, this band never has been reallocated because of concerns over potential interference to TV channel 13 operation. See Amateur NPRM, 8 FCC Rcd at 2354.

[30]Petition at 27-28.

[31]Of this band, the 328.6 to 335.4 MHz frequencies are allocated for joint government and non-government aeronautical radionavigation use.

- ETS operation on the 216-217 MHz band would not adversely affect adjacent broadcast, AMTS, IVDS, 220-222 MHz or amateur operations.[32]

- The propagation and other technical aspects of the 216-217 MHz band are ideal for ETS.[33]

2. Channels needed for ETS

ProNet, in the Petition, requested allocation of three 8-KHz channels for specific ETS operations: (1) 218.0 MHz for felony tracking; (2) 218.5 MHz for law enforcement undercover and training operations; and (3) 219.0 MHz for tracking of misdemeanors and other less serious crimes.[34] Channels specifically designated for those operations still are necessary. However, to accommodate increased usage of ETS and anticipated growth, two channels now are needed for each operation. Thus, ProNet proposes that: (1) the 216.80 and 216.85 MHz channels be allocated for felony tracking; (2) the 216.70 and 216.75 MHz channels be allocated for law enforcement undercover and training operations; and (3) the 216.90 and 216.95 MHz channels be allocated for tracking of misdemeanors and other less serious crimes.

3. Minor technical modifications

The technical specifications for the low-power ETS proposed in the Petition[35] generally remain the same for operation in the 216-217 MHz band.[36] However, the maximum ERP would be decreased from 120 milliwatts to 100 milliwatts. This decrease is designed to protect adjacent licensees while maintaining effective ETS operations. In addition, this lower ERP

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[32] See Section IV, infra.

[33] Petition at 28.

[34] Petition at 7.

[35] Petition at Exhibit 5.

[36] See Attachment C.

level is compatible with Phonic Ear's proposal. For these reasons, authorized operations in the 216-217 MHz band should not exceed 100 milliwatts.

4. ETS should be established as a separate service under Part 90

ProNet originally proposed establishment of ETS as part of the BRS.[37] It made this proposal because, at the time, before reallocation of spectrum for IVDS and 220-222 MHz services, and before adoption of the Amateur NRPM, this approach would result in the least disruptive changes to Part 90.

ProNet, on reconsideration, has determined that ETS should be established as a separate low power service under Part 90. First, making ETS a separate service and not part of the BRS is consistent with Phonic Ear's approach. Second, eligibility requirements under the BRS are too liberal and could lead to undue congestion. Third, certain limitations under the BRS (i.e., secondary operation and one channel per market),[38] are inappropriate for ETS.[39]

5. Need for primary status

In its Petition, ProNet proposes that ETS should be operated on a secondary basis to existing licensees because operation in the BRS is subject to this limitation.[40] At the time, such operation was feasible.

However, operation of ETS must be on a primary basis. Phonic Ear proposes to be authorized on a primary basis, and ETS should be authorized similarly to be compatible. Making ETS and Phonic Ear's low power services primary, instead of secondary, would protect

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[37]Petition at 7-9.

[38]See 47 C.F.R. Sections 90.75 and 90.259 (1992).

[39]See Section III.B.5, infra.

[40]47 C.F.R. Sections 90.75 and 90.259 (1992).

TV Channel 13 and other adjacent licensees from harmful high-power operations. Primary status appropriately will protect ETS and Phonic Ear from incursion by incompatible future services.

6. ETS licensee eligibility

No specific restrictions on eligibility for ETS licensees were proposed by ProNet in the Petition. Instead, any entity eligible to be a licensee under the BRS could become an ETS licensee.[41]

ProNet now believes that specific eligibility requirements are necessary. First, given the sensitive law enforcement requirements associated with ETS, it is important that licensees be qualified to provide services to the FBI, police departments and the other law enforcement agencies which historically have used ETS. Second, restrictions are needed to guard against proliferation of users on the 216-217 MHz band, which could compromise the integrity of the operations proposed by ProNet and by Phonic Ear.

Consequently, ProNet proposes that eligibility to become an ETS licensee be conditioned upon the applicant's showing that it has an agreement with the law enforcement agency in the area for which it seeks to be licensed. In jurisdictions served by multiple law enforcement agencies, such as the Washington, D.C. metropolitan area (i.e., the District of Columbia, Virginia, and Maryland), eligibility would be established by an applicant showing an agreement with at least one (1) local law enforcement agency.[42]

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[41]Petition at 7-9.

[42]ProNet supports selection of ETS licensees either by lottery or, if the Commission so chooses, by competitive bidding. See Section III.B.7, infra. Under ProNet's eligibility proposal, multiple parties could apply for a given market (e.g., Washington, D.C.) provided each applicant has an agreement with a local law enforcement agency. Under ProNet's proposal, for reasons specified in Section III.B.7, infra, there must be only one (1) ETS licensee in each market. Once a licensee is determined, it could seek agreements with the law enforcement agencies which had an arrangement with the losing applicant(s).

Furthermore, the definition of ETS needs to be modified to accommodate all anticipated law enforcement needs. The revised definition is set forth in Attachment D.

7. Proposals in the Petition not requiring modification

ProNet made several proposals in the Petition that do not require modification. These proposals are:

- One ETS licensee per market.
- Selection of ETS licensees by lottery.[43]
- Blanket license for all ETS mobile transmitter "tags."
- Permitted system testing.
- Grandfathering ETS licensees.[44]

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[43]The Commission now has authority to assign licenses by competitive bidding. OBRA, Section 6002. A proceeding has been adopted to establish rules implementing this competitive bidding authority. Implementation of Section 309(j) of the Communications Act Competitive Bidding, Notice of Proposed Rule Making, PP Docket No. 93-253, (FCC 93-455, released Oct. 12, 1993) ("Auction NPRM"). It appears that ETS might qualify as a service subject to competitive bidding because it is a radio communication service which principally uses spectrum to provide service to subscribers for compensation. Id. at para. 2. ProNet has no objection to selecting ETS licensees by competitive bidding instead of by lottery because, as set forth in footnote 42, supra, it is critical that this service be licensed expeditiously. However, resolution of the issues involving competitive bidding must not delay establishment of ETS as a permanent service.

[44]See Petition at 35-42. A limit of one licensee per market is necessary because, with the myriad law enforcement agencies serving a particular area, it would be too complicated to coordinate and to identify the source of possible interference and other problems. Id. at 35-37. Selection of ETS licensees by lottery (or by auction) is appropriate to expedite service implementation. Id. at 37-39. A blanket license for all tags is necessary to reduce any administrative burden and to ensure that a single licensee is responsible for all ETS activities. Id. at 39-40. Given the unique topographical and propagation characteristics of each service area, testing is necessary to determine practical equipment needs and system area requirements. Id. at 41-42. To facilitate a transition to the new ETS frequencies on the 216-217 MHz band, the Commission must grandfather ProNet's existing operations until it can relocate operations to areas where it receives a permanent license. Id. at 42.

IV. ADOPTION OF THE PETITION, AS MODIFIED, WOULD NOT RESULT IN HARMFUL INTERFERENCE TO ADJACENT LICENSEES

The spectrum within and adjacent to the 216-220 MHz band is quite crowded. ProNet is sensitive to the needs of television, maritime, IVDS, 220-222 MHz and prospective amateur radio licensees. As detailed below, its proposed modifications to the Petition make reallocation of six (6) channels in the 216-217 MHz band, on a primary basis, completely compatible with these adjacent licensees' operations.[45]

A. Broadcast Operations

In its comments on the Petition, MSTV alleges that ETS in the 218-219 MHz band would cause harmful interference to broadcast licensees.[46] On reply, ProNet demonstrates that these concerns were unjustified because ETS' low power level would not result in any harmful interference to TV Channel 13 licensees.[47]

ProNet is sensitive to broadcasters' requirements and accordingly has worked closely with MSTV in developing its proposed 216-217 MHz reallocation. Specifically, ProNet conducted tests to evaluate the potential for ETS interference to and from TV Channel 13 operations when operating in the 216-217 MHz band. The results of these tests, detailed in Attachment E, show that there is, at most, nominal potential for such interference. The results tabulated in Attachment E show the potential worst case levels of interference (i.e., 100 milliwatt

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[45]ETS operates very infrequently, thereby minimizing any risk of interference. For example, for all 23 ProNet ETS systems, only 369 incidents involving tags occurred from October 1992 to September 1993. See Attachment B.

[46]MSTV Comments in RM-7784 (Sept. 26, 1991) at 3-4.

[47]ProNet Reply Comments in RM-7784 (Oct. 15, 1991) at 13-14. In its Reply at 22, ProNet states that it could not operate ETS in the 216-217 MHz band because of potential interference to TV Channel 13 operations. This concern no longer exists. Improvements in ETS technology and further empirical tests, as detailed in Attachment E, prove that ETS in the 216-217 MHz band would not interfere with TV Channel 13 operations.